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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,885	05/02/2001	Robert Nakayama	18564-005910	5809

22428 7590 08/09/2006

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EXAMINER

TALBOT, BRIAN K

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,885

Applicant(s)

NAKAYAMA ET AL.

Examiner

Brian K. Talbot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/5/06.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. The amendment filed 6/5/06 has been considered and entered. Claims 1-22 remain in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In light of the response filed 6/5/06, the objection to the specification has been withdrawn.

Claim Rejections - 35 USC § 112

4. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a non-conducting or insulating polymer film that absorbs the chemical analyte so as to be sensed by the sensing film, does not reasonably provide enablement for coating any insulating layer which does not absorb the analyte because this would not allow the analyte to reach the sensing film and therefore be “sensed” or detected. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 103

5. Claims 1-6,9,10 and 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (5,571,401) or Lewis et al. (6,290,911) in combination with Yamagishi et al. (5,756,879), Pace (4,454,007) or Kuroiwa et al. (5,296,819) or Hamamoto et al. (5,720,862) or Yamamoto et al. (5,658,443).

Lewis et al. (5,571,401) or Lewis et al. (6,290,911) both teach sensor arrays for detecting analyte fluids. A sensing material comprising conducting and non-conducting material is blended to form the desired sensor. The sensing material is applied over a substrate having gold electrical contacts. The sensing material absorbs the detected material thereby providing a detectable response. The conductive material includes carbon black and the non-conducting polymers include a wide variety and can be applied by a variety of deposition processes including spraying and dipping. Arrays of sensors can be manufactured by these processes. The sensing material is applied by a variety of processes including spraying (abstract and col. 5, line 1 – col. 10, line 60).

Lewis et al. (5,571,401) or Lewis et al. (6,290,911) fail to teach coating a first conductive layer and then a non-conductive layer instead of a blended composition.

Yamagishi et al. (5,756,879), Pace (4,454,007) or Kuroiwa et al. (5,296,819) all teach sensors whereby conductive electrodes are covered and connected by a conductive material. The sensors can be tailored to detect a variety of compound by altering the conductive material. These references teach coating layers over the contact to form the sensors.

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Hamamoto et al. (5,720,862) or Yamamoto et al. (5,658,443) both teach multilayered sensors having cover layers atop the sensing layer (Figure 1 in both references). Hamamoto et al. (5,720,862) further teaches apertures in the top cover layer to allow the sample applied atop the cover layer to pass and penetrate toward the reactive layer and the electrode system. The layers are applied and dried (col. 8, lines 5-55). Yamamoto et al. (5,658,443) further teaches that the top layer (8) allows infusion of the sample solution from the surface into the reaction layer. The layers are applied and dried. (col. 6, line 35 – col. 7, line 20).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Lewis et al. (5,571,401) or Lewis et al. (6,290,911) sensor manufacturing process by coating individual layers as evidenced by Yamagishi et al. (5,756,879), Pace (4,454,007) or Kuroiwa et al. (5,296,819) or Hamamoto et al. (5,720,862) or Yamamoto et al. (5,658,443) with the expectation of achieving the desired results.

With respect to claims 9 and 10 which recite the use of a robotic amateur. It has been well settled that the provision of mechanical or automated means to replace manual activity is held to have been an obvious modification of the art. *In re Venner 120 USPQ 192*

Claims 7,8,11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (5,571,401) or Lewis et al. (6,290,911) in combination with Yamagishi et al. (5,756,879), Pace (4,454,007) or Kuroiwa et al. (5,296,819) or Hamamoto et al. (5,720,862) or Yamamoto et al. (5,658,443) further in combination with De Witt et al. (6,572,826).

Features described above concerning Lewis et al. (5,571,401) or Lewis et al. (6,290,911) in combination with Yamagishi et al. (5,756,879), Pace (4,454,007) or Kuroiwa et al.

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(5,296,819) or Hamamoto et al. (5,720,862) or Yamamoto et al. (5,658,443) are incorporated here.

Lewis et al. (5,571,401) or Lewis et al. (6,290,911) in combination with Yamagishi et al. (5,756,879), Pace (4,454,007) or Kuroiwa et al. (5,296,819) or Hamamoto et al. (5,720,862) or Yamamoto et al. (5,658,443) fails to teach using a mask to apply the films.

De Witt et al. (6,572,826) teaches a chemically sensitive sensor whereby the sensing material can be applied by spraying with the use of a mask to applying the coating to specific areas of the substrate (col. 8, lines 25-40).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Lewis et al. (5,571,401) or Lewis et al. (6,290,911) in combination with Yamagishi et al. (5,756,879), Pace (4,454,007) or Kuroiwa et al. (5,296,819) or Hamamoto et al. (5,720,862) or Yamamoto et al. (5,658,443) multi-layered sensor by applying the layers with a masking means as evidenced by De Witt et al. (6,572,826) with the expectation of achieving a more precise and accurate deposition pattern.

Response to Arguments

6. Applicant's arguments filed 6/5/06 have been fully considered but they are not persuasive.

Applicant argued that the 35 USC 12 first paragraph rejection is improper as "one type of analyte" may not be absorbed would not render the claims non-enabling.

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The Examiner agrees in part. The recitation of the non-conducting or insulating polymer being “absorbable for the sensed analyte” is not found. Hence, the claims do not require that the non-conducting or insulating polymer, be absorbable to any analyte and this is why the claims , as written, are non-enabling.

Applicant argued that the secondary references fail to teach the specific non-conducting or insulating polymers.

The Examiner agrees in part. While the Examiner acknowledges the fact that the secondary reference teach different polymers, the secondary references are relied upon for the teaching of applying “multiple layers” instead of a blended layer and not for the specific materials as argued. The specific materials are taught in the primary reference.

Furthermore, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after


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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian K Talbot
Primary Examiner
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